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Title of Invention *(Short & Descriptive)*			
##GP090## COMBINING BIMODAL & GSHARE BRANCH PREDICTION MECHANISM			

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Combining Bimodal and Gshare branch prediction mechanism

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GP uses a combining branch prediction mechanism, which combines gshare branch prediction mechanism with bimodal branch prediction mechanism. This approach is different from the approach used by DEC. DEC also uses a combining branch prediction mechanism, but they combine "local pattern" branch prediction mechanism with gshare branch prediction mechanism. In addition to the two BHTs for the bimodal and gshare prediction mechanism, we use a selector table to select between Bimodal and Gshare predictions. The selector table keeps track which of the two prediction algorithms is working better for a given branch. Our approach uses a total of three tables, where each entry is a 1-bit counter.

Advantages

1. Instead of four tables, this approach uses three identical tables.
2. Unlike DEC 21264, this approach has the advantage that it does not require serialized accesses to two separate arrays, before prediction for a branch can be generated.